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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,220	05/09/2001	Shunpei Yamazaki	SEL 259	4950

7590 07/27/2005

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EXAMINER	
ABDULSELAM, ABBAS I	

ART UNIT	PAPER NUMBER
2677	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/852,220	YAMAZAKI ET AL.	
	Examiner	Art Unit	
	Abbas I. Abdulselam	2677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-10,12-21,23-25,27-29,31-33,35-37,40,41 and 43-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-10,12-21,23-25,27-29,31-33,35-37,40,41 and 43-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to a communication filed on 05/16/05. Claims 1-4, 6-10, 12-21, 23-25, 27-29, 31-33, 35-37, 40-41 and 43-51 are pending. Claims 5, 11, 22, 26, 30, 34, 38-39 and 42 are canceled.

Response to Arguments

2. Applicant's arguments filed on 05/16/05 have been fully considered but they are not persuasive.

Applicant argues that the cited references, Masuda et al. (USPN 6107983) and Shinotsuka et al. (USPN 6191408) alone or in combination do not teach the limitations of the independent claims as amended, each of the plurality of pixels comprising a light emitting element. However as shown in the art rejection below, Masuda teaches the use of various types of liquid crystal display device including a display device with an element of light modulation, and a display element with variable light emitting capabilities (col. 15, lines 32-4). Applicant also argues that the cited references do not teach all semiconductor elements in the display portion and the driver circuit being n-channel type semiconductors. However, as shown in the art rejection below, Shinotsuka teaches a semiconductor fabrication process in which type of transistors used are n-channel MOS transistors (Q1, Q2) (Fig. 2 (Q1, Q2) and col. 4, lines 41-50).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6-10 and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. (USPN 6107983) in view Shinotsuka et al. (USPN 6191408).

Regarding claim 1, 7 and 13, Masuda teaches a liquid crystal display device (101) with a substrate (111), which includes driver circuits (210a, 201b, 301a, 301b), and a plurality of thin film transistors, TFTs (165) coupled with pixel electrodes (col. 5, lines 28-46 and Fig. 2 (210a, 201b, 301a, 301b)). Masuda also teaches that the driving circuit (201a) includes a logic circuit section (215a), which in turn includes two 2-input NAND gates NA1 and NA2 (col. 6, lines 34-45 and Fig. 3 (NAND)). Furthermore, Masuda points out the use of a decoder having a plurality of logic circuits (col. 1, lines 60-67 and col. 2, lines 1-5). Masuda teaches the use of various types of liquid crystal display device including a display device with an element of light modulation, and a display element with variable light emitting capabilities (col. 15, lines 32-4). However, Masuda does not teach all semiconductor elements being n-channel type semiconductor elements. Shinotsuka on the other hand discloses a semiconductor fabrication process in which type of transistors used are n-channel MOS transistors (Q1, Q2) (Fig. 2 (Q1, Q2) and col. 4, lines 41-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Masuda's liquid crystal display system shown in Fig. 2 to adapt Shinotsuka's use of n-channel MOS transistors as demonstrated in Fig. 2 because the use of n-

channel MOS transistors helps detect and display an image on a display device as taught by Shinotsuka (col. 5, lines 58-61).

Regarding claims 4, 10 and 14, Shinotsuka's teaches a circuit diagram of a pixel (Fig. 2 (Q1, Q2) and col. 4, lines 41-50).

Regarding claims 2, 8 and 15, Masuda teaches the use of a substrate (Fig. 2 (111) and col. 5, lines 28-46).

Regarding claims 3, 9 and 16, Masuda teaches the use of TFT (165) (Fig. 2 (165) and col. 30-46).

Regarding claims 6, 12, and 17-18, Masuda teaches the use of the liquid crystal projector 1 with three liquid crystal display devices 101, 501 and 601 (col. 4, lines 1-67 and col. 5, lines 1-13).

4. Claims 19-21, 23-25, 27-29, 31-33, 35-37, 40-41 and 43-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. in view of Shinotsuka et al. and Lei (USPN 6169391).

Regarding claims 19, 24, 28, 32, 36 and 41, Masuda teaches a liquid crystal display device (101) with a substrate (111), which includes driver circuits (210a, 201b, 301a, 301b), and a plurality of thin film transistors, TFTs (165) coupled with pixel electrodes (col. 5, lines 28-46 and Fig. 2 (210a, 201b, 301a, 301b)). Masuda also teaches that the driving circuit (201a) includes a logic circuit section (215a), which in turn includes two 2-input NAND gates NA1 and NA2 (col. 6, lines 34-45 and Fig. 3 (NAND)). Furthermore, Masuda points out the use of a decoder

having a plurality of logic circuits (col. 1, lines 60-67 and col. 2, lines 1-5). Masuda teaches the use of various types of liquid crystal display device including a display device with an element of light modulation, and a display element with variable light emitting capabilities (col. 15, lines 32-4). In addition, Masuda teaches either one of the scanning line drive circuits 201a, 201b and video signal line drive circuits 301a, 301b or, one of sets of drive circuits 201a, 201b and 301a, 301b is constructed of a plurality of stages of shift registers (col. 5, lines 28-46).

However, Masuda does not teach all semiconductor elements being n-channel type semiconductor elements. Shinotsuka on the other hand discloses a semiconductor fabrication process in which type of transistors used are n-channel MOS transistors (Q1, Q2) (Fig. 2 (Q1, Q2) and col. 4, lines 41-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Masuda's liquid crystal display system shown in Fig. 2 to adapt Shinotsuka's use of n-channel MOS transistors as demonstrated in Fig. 2 because the use of n-channel MOS transistors helps detect and display an image on a display device as taught by Shinotsuka (col. 5, lines 58-61).

Masuda does not teach first and second semiconductor elements such that a gate of the second semiconductor element is connected to a drain of the first semiconductor element.

Lei on the other hand illustrates the use of transistors where a gate of transistor (51) is connected to a drain of transistor (46) (Fig. 7 (46, 51) and col. 4, lines 27-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Masuda's liquid crystal display system shown in Fig. 2 to incorporate Lei's arrangement of transistors as illustrated in Fig. 7 because the use of transistors

helps function display indicators such as light emitting diodes as taught by Lei (col. 1, lines 15-22).

Regarding claims 20, 25, 29, 33, 37and 43, Masuda teaches a pair of electrode substrates111 and 191 (col. 5, lines 19-26).

Regarding claim 21, Masuda teaches the use of TFT (165) (Fig. 2 (165) and col. 30-46).

Regarding claim 44, Masuda teaches the use of a plurality of display pixels arranged in a matrix array (col. 10, lines 63-67 and col. 11, lines 1-4).

Regarding claims 23, 27, 31, 35, 40 and 45, Masuda teaches the use of the liquid crystal projector 1 with three liquid crystal display devices 101, 501 and 601 (col. 14, lines 5-20).

Regarding claims 46-51, Shinotsuka's teaches a circuit diagram of a pixel (Fig. 2 (Q1, Q2) and col. 4, lines 41-50).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abbas I. Abdulselam whose telephone number is (571) 272-7685. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER

Abbas abdulselam

Examiner

Art Unit 2677

July 22, 2005